

**THE SCHOOL SPACE AND THE QUALITY OF EDUCATION: A REVIEW BY
BRAZILIAN LEGISLATION**

***O ESPAÇO ESCOLAR E A QUALIDADE DA EDUCAÇÃO: UMA REVISÃO DA
LEGISLAÇÃO BRASILEIRA***

***EL ESPACIO ESCOLAR Y LA CALIDAD DE LA EDUCACIÓN: UNA REVISIÓN DE
LA LEGISLACIÓN BRASILEÑA***

Vicente Carlos ZILIANI¹
Eladio SEBASTIÁN-HEREDERO²

ABSTRACT: The school space a few present in the laws of Brazil. Some research that relates the quality of education with the physical conditions of schools, such as 21ST CSF (2010), Sebastián-Heredero (2008), Viñao Frago and Escolano (2001) show very clear results regarding the need to care for and provide good spaces for students Frearson (2013). National legislation (BRASIL, 2000b, 2007, 2009, 2019) denotes quite objectively the responsibility of public authorities in the availability of quality education, and the school environment is an important part of this process. Consistently, in the laws of Brazil, we find evident references to the need to create spaces suitable for this function and, also, technical construction standards, including their maintenance. The school space is a whole and cannot be divided, its whole set is part of education, it can be an important part of teaching, it can have a direct and positive impact on learning and, consequently, on the quality of education.

KEYWORDS: School space. Quality of education. Brazilian legislation.

RESUMO: *O espaço escolar está pouco presente nas leis do Brasil. Algumas pesquisas que relacionam a qualidade do ensino com as condições físicas das escolas, como 21ST CSF (2010), Sebastián-Heredero (2008), Viñao Frago e Escolano (2001) demonstram resultados bem claros quanto a necessidade de cuidar e entregar bons espaços para os estudantes Frearson (2013). A legislação nacional (BRASIL, 2000b, 2007, 2009, 2019) denota de maneira bastante objetiva a responsabilidade do poder público na disponibilidade de educação de qualidade, e o ambiente escolar é parte importante desse processo. Consistentemente, nas Leis do Brasil, encontramos referências evidentes à necessidade de criar espaços adequados para essa função e, também, normas técnicas construtivas, incluída sua manutenção. O espaço escolar é um todo e não pode ser dividido, todo seu conjunto faz parte da educação, pode ser parte importante do ensino, pode incidir direta e positivamente nas aprendizagens e, consequentemente, na qualidade da educação.*

¹ Federal University of Mato Grosso do Sul (UFMS), Campo Grande – MS – Brazil. Master student in the Graduate Program in Education (PPGEDU), Faculty of Education. ORCID: <https://orcid.org/0000-0002-3637-9353>. E-mail: vicente.ziliani@ufms.br

² Federal University of Mato Grosso do Sul (UFMS), Campo Grande – MS – Brazil. Visiting Professor at the Graduate Program in Education (PPGEDU), Faculty of Education. ORCID: <https://orcid.org/0000-0003-0293-4395>. E-mail: eladio.sebastian@ufms.br

PALAVRAS-CHAVE: Espaço escolar. Qualidade da educação. Legislação brasileira.

RESUMEN: El espacio escolar está poco presente en las leyes de Brasil. Algunas investigaciones que relacionan la calidad de la educación con las condiciones físicas de las escuelas, como 21ST CSF, (2010), Sebastián-Heredero (2008), Viñao Frago y Escolano (2001) muestran resultados muy claros respecto a la necesidad de cuidar y entregar buenos espacios para los estudiantes Frearson (2013). La legislación nacional (BRASIL, 2000b, 2007, 2009, 2019) denota de forma bastante objetiva la responsabilidad de los poderes públicos en la disponibilidad de una educación de calidad, y el entorno escolar es una parte importante de este proceso. Consistentemente, en las leyes de Brasil, encontramos referencias evidentes a la necesidad de crear espacios adecuados para esta función y, también, normas técnicas de construcción, incluyendo su mantenimiento. El espacio escolar es un todo y no se puede dividir, todo su conjunto forma parte de la educación, puede ser una parte importante de la enseñanza, puede tener un impacto directo y positivo en el aprendizaje y, en consecuencia, en la calidad de la educación.

PALABRAS CLAVE: Espacio escolar. Calidad de la educación. Legislación brasileña.

Introduction

The school space is a theme that is little present in the laws of Brazil, probably due to the specificity of the theme and the difficulty of maintaining the quality of the space built with the use and natural wear of the materials and in view of the dimensions of the country and consequently, the number of existing schools and universities. More recently, as we will show later, Ministry of Education (MEC) has produced materials to help in the maintenance and construction of spaces for education, which may help in the development of the theme that we were willing to discuss here.

Naturally, federal legislation treats education more comprehensively, defining more the condition of being the obligation of the state to offer everyone constant and quality education, but the quality understood in a global way also serves school spaces, as Sebastián-Heredero (2008) argues in his work "*A la calidad de la educación desde los espacios school*". Viñao Frago and Escolano (2001, p. 11) show how school architecture, understood as a program, is a relevant aspect in the process of schooling and the constitution of subjectivities.

Only one example of this would be, for example, the so-called Impact of school infrastructure on students and teachers (21ST CSF, 2010) in which they found positive, and statistically significant, results between school infrastructure and standardized test results to measure the learning processes of the students who attended them.

In addition to this has other studies focused on aspects of spaces, such as the report Clever Classrooms (Smart Lessons), conducted by Barrett *et al* (2015) for the University of Salford (United Kingdom). It highlights that differences in air quality, light and color in schools can increase students' learning progress by 16% in just one year.

For so much we could talk about the relationship between school spaces and the quality of education and the results of students, which should undoubtedly appear as something to be considered from the educational policies of any country.

The requirements on the quality of school buildings in the Brazilian legislative order.

The Constitution of the Federative Republic of Brazil of 1988 comprehensively treats teaching, bringing this as everyone's right as follows:

Art. 6 ° Education is social rights [...], in the form of this Constitution.

[...]

XXV - free care for children and dependents from birth to 5 (five) years of age in day care centers and preschools (BRASIL, 1988, p. 18).

Already in its Chapter III, Section I, now more specific, the Federal Constitution proposes:

Art. 205. Education, the right of all and the duty of the State and the family, will be promoted and encouraged with the collaboration of society, aiming at the full development of the person, his preparation for the exercise of citizenship and his qualification for work (BRASIL, 1988, p. 123) (our translation).

[...]

§ 1 - Access to compulsory and free education is subjective public law.

§ 2 - The non-provision of compulsory education by the Government, or its irregular offer, matters responsibility of the competent authority.

§ 3 - It is up to the Public Authorities to record the students in elementary school, make the call and ensure, with the parents or guardians, the attendance to the school (BRASIL, 1988, p. 124) (our translation).

[...]

Art. 214. The law will establish the national education plan, of 10-year duration, with the objective of articulating the national system of education in collaboration and defining guidelines, objectives, goals and implementation strategies to ensure the maintenance and development of education at its various levels, stages and modalities through integrated actions of public authorities of the different federative spheres that lead to:

II - universalization of school care;

III - improvement of the quality of teaching (BRASIL, 1988, p. 125) (our translation).

Here is evidenced the responsibility of the public power in education and consequently of the teaching spaces, a point that we try to put into discussion here. Therefore, schools should have in the quality of spaces an important point to provide this education. It is the state's obligation to "improve the quality of teaching" and here are framed the qualification of teachers, school spaces, and all who work within the school, thus forming an environment conducive to quality teaching.

In the Statute of the Child and Adolescent (BRASIL, 1990, p. 21-22) in its chapter IV mentions that:

[...] Art. 53. The child and adolescents have the right to education, aiming at the full development of their person, preparation for the exercise of citizenship and qualification for work, ensuring them:

[...]

V - access to public and free school, close to your residence, ensuring vacancies in the same establishment to brothers who attend the same stage or cycle of basic education. (Writing by Law No. 13,845, 2019)

[...]

Art. 59. The municipalities, with the support of the states and the Union, will stimulate and facilitate the allocation of resources and spaces for cultural, sports and leisure programs aimed at children and youth.

The full development of the person depends on the whole process of formation, as a student within the school and as a person, and the school environment is an important part of this process.

The National Education Guidelines and Bases Law (LDB) currently in force points out the directions of education:

Art. 1º [...]

§ 1 - This Law regulates school education, which develops predominantly through education in its own institutions.

[...]

§ 1 - It will be up to the Union to coordinate the national education policy, articulating the different levels and systems and performing normative, redistributive and superfluous functions in relation to other educational bodies (BRASIL, 1996, p. 1).

It is evident the government's responsibility to offer a quality education for all and that this is in its own educational institutions. Now if the goal is to train for the full development of the person, his preparation for the exercise of citizenship and his qualification for work could be understood that the quality of schools should also be the responsibility of the public administration.

School spaces and quality of education

On this essential issue in school, the study conducted by the University of Salford and the architects Nightingale Associates of the United Kingdom concluded that well-designed classrooms can improve the academic performance of elementary school students by 25% (FREARSON, 2013).

In this same line of thought, Balardim (2019, p. 1) is pronounced, highlighting the changes in the classrooms and their impact on learning:

The concern with the structure of schools and their role in learning is adherent to the new moment of education, in which institutions begin to understand that the way to acquire knowledge is changing, and with this they begin to test new teaching models and introduce technological innovations in the classroom and in the school's own processes.

We can use the space as a third teacher (BALARDIM, 2019), the space cannot fight against teaching, but rather become support of it, every effort must be gathered in the intention of training the best possible child, minimizing or preferably excluding barriers to learning.

In the legislation itself we find clear references to the relationship between spaces and quality of education, in the light of the general and broad regulations set out here. We highlight the notebook *The Quality of Education: Concepts and Definitions* of the Department of Education of the State of Paraná (2016, p. 2), where exactly this understanding is expressed:

System level: conditions of supply of education • School environment suitable for teaching, leisure and recreation activities, sports and cultural practices, meetings with the community etc. • Equipment in quantity, quality and conditions of use suitable for school activities; • Library with appropriate physical space for reading, consultation of the collection, individual and/or group study, online research, among others; • Collection with quantity and quality to meet the pedagogical work and the number of students existing in the school; • Teaching laboratories, computer science, toy library, among others, under appropriate conditions of use; • Student support and guidance services; *The Quality of Education: Concepts and Definitions - Annex 1 3* • Accessibility and care conditions for people with special needs; • School environment with safety conditions for the student, teachers, staff, parents and the community in general; • Programs that contribute to a culture of peace at school (Department of Education of the State of Paraná, 2016)

This example takes into account school spaces as constituents of the quality of education and this is expressed by an education secretariat at least, it should be understood as the existence of a regulation that regulates the need for intervention in these spaces from a broad perspective, because as we have just seen beyond the classroom spaces, it places libraries, laboratories, etc. and incorporates the security aspect of accessibility spaces.

The Normative Ordinance of MEC no. 25, of May 31, 2007 (BRASIL, 2007) establishes the Initial Training Program in Service of Basic Education Professionals of Public Education Systems - PROFUNCIÓNÁRIO, through a technical training course for basic education employees, at the high level.

This program aimed to promote technical professional training at the middle level of employees working in the education systems of public basic education, technical professional training at the high level. In the qualification "Environment and Maintenance of School Infrastructure" highlighting the importance of maintaining the quality of the education space.

In the material produced by the Secretariat of Basic Education of the Ministry of Education called Module 16: Construction Techniques appears the definition that:

[...] the school space is a very special space, that is, it is a place dedicated to the training education of children, and requires a series of care to achieve these educational goals. It is a space that should promote coexistence, comfort, safety and, of course, the desire to study.

Therefore, the school has a number of important requirements that must be observed so that students, teachers and employees can make the best use of it, in order to achieve these educational objectives (BRASIL, 2009, p. 5).

It is not possible for a school to achieve good learning rates with students and teachers living in a building with cracked walls, broken glass and clogged toilets. For learning to happen, it is necessary that the environment is conducive (ALMEIDA, 2009) the space focuses on the quality of education.

Treatment of buildings and school space in Brazilian legislation.

Law No. 10,048 of November 8, 2000, which deals with accessibility, puts in its article 4:

The public buildings and public toilets, as well as the buildings of public use, will have building standards, for the purpose of licensing the respective building, downloaded by the competent authority, designed to facilitate the access and use of these places by people with disabilities (BRASIL, 2000a, p. 1).

This will be a basic standard in the field of school constructions because as Moura (2019) puts the school, or school environment, should provide the student with special needs full access, as well as provide conditions for him to remain in school. The total accessibility of children, regardless of their difficulty, must be guaranteed and thought of in every school environment.

Law No. 10,098 of December 19, 2000, in Article 1, insists on accessibility with a focus on people with reduced mobility or disabilities,

[...] establishes general norms and basic criteria for the promotion of accessibility for people with disabilities or reduced mobility, by removing barriers and obstacles in roads and public spaces, in urban furniture, in the construction and renovation of buildings and in the means of transport and communication (BRASIL, 2000b, p. 1).

It also brings definitions of accessibility, barriers, people with disabilities, people with reduced mobility, companion, element of urbanization, urban furniture, assistive technology or technical help, communication and universal design. The latter, it should be said that it is the "conception of products, environments, programs and services to be used by all people, without the need for adaptation or specific project, including assistive technology resources" (BRASIL, 2000b, p. 2) that is very important in the development of educational spaces and should give access to all.

Still of the same Law (BRASIL, 2000b), with regard to public buildings or collective use, deals with the specific points to be considered in the built environment:

Art. 11. [...]

Single paragraph. For the purposes of this article, in the construction, expansion or renovation of public or private buildings intended for collective use, at least the following accessibility requirements must be observed:

I – in the external or internal areas of the building, intended for garage and parking for public use, spaces should be reserved near the pedestrian traffic accesses, duly signposted, for vehicles carrying people with disabilities with difficulty of permanent locomotion;

II – at least one of the accesses to the interior of the building must be free of architectural barriers and obstacles that prevent or hinder the accessibility of persons with disabilities or reduced mobility;

III – at least one of the itineraries that communicate horizontally and vertically all the premises and services of the building, between themselves and with the exterior, shall comply with the accessibility requirements of this Law; and

IV – buildings must have at least one accessible bathroom, distributing their equipment and accessories in such a way that they can be used by persons with disabilities or reduced mobility.

Art. 12. The venues of shows, conferences, classes and others of a similar nature should have reserved spaces for people using wheelchairs, and specific places for people with hearing and visual impairment, including companion, according to ABNT, in order to facilitate the conditions of access, circulation and communication.

Art. 12a. Shopping centers and similar establishments shall provide cars and wheelchairs, motorized or not, for the care of persons with disabilities or reduced mobility. (Included in Law No. 13,146, 2015) (Term) (BRAZIL, 2000b, p. 3-4).

Accessibility was a point forgotten or ignoring for a long time, but the patient of any motor, sensory or other difficulty has the right to be, attend every public environment, and it is very serious that for any of the reasons mentioned a child cannot participate in the educational process with the other. The role of universal design is of paramount importance to try to reduce the difficulties of access to all.

The National Education Plan (BRASIL, 2001, p. 5) presents the challenge of "offering an education compatible, in extension and quality, to that of developed countries" to be built constantly and progressively, according to constitutional duty and social needs".

Decree No. 5,296 of December 2, 2004 (BRAZIL, 2004), regulates Laws No. 10,048 of November 8, 2000, which gives priority to care to people it specifies, and 10,098, of December 19, 2000, which establishes general norms and basic criteria for promoting accessibility for people with disabilities or reduced mobility. It treats that:

Art. 24. Educational establishments of any level, stage or modality, public or private, will provide conditions for access and use of all their environments or compartments for people with disabilities or reduced mobility, including classrooms, libraries, auditoriums, gymnasiums and sports facilities, laboratories, leisure areas and toilets.

§ 1 For the granting of authorization to operate, open or renew the course by the Public Power, the educational establishment must prove that:

I - is complying with the rules of architectural accessibility, urban and communication and information provided for in the technical standards of accessibility of ABNT, in specific legislation or in this Decree;

II - makes available to teachers, students, servants and employees with disabilities or reduced mobility technical aid that allows access to school and administrative activities on equal terms with other people; and

III - its internal order contains rules on the treatment to be given to teachers, students, servants and employees with disabilities, with the objective of curbing and repressing any type of discrimination, as well as the respective sanctions for non-compliance with these standards (BRASIL, 2004, p. 8).

To be considered accessible, the school should not present limitations in its environments and, also, all tactile, sound, visual signaling for circulation, access and use of all areas of the school, not only for students, but all who can at any time be part of this space. For this to be effectively possible, it is necessary to use assistive technology, which the Technical Aid Committee of Brazil (CAT, 2007) defines as:

[...] area of knowledge, of interdisciplinary characteristic, which encompasses products, resources, methodologies, strategies, practices and services that aim to promote functionality, related to the activity and participation of people with disabilities, disabilities or reduced mobility, aiming at their autonomy, independence, quality of life and social inclusion. (ATA VII - Technical Aid Committee)

The document already mentioned places important and necessary aspects of the school as a physical space.

The installation of a school also requires its own requirements for it to be safe, comfortable and meet its educational objectives, responding to the physical and psychological needs of its users. The 'school is such an important system that the Ministry of Education (MEC) has several catalogs and recommendations specific to its project. These are rules for schools, which we call "school specification." School specification is the set of knowledge applied to school constructions in order to adapt their spaces to the physical and psychological needs of their users. It is a knowledge in constant development, disseminated through technical catalogs, specific norms or laws (BRASIL. 2009, p. 44).

The document also includes important data on physical aspects:

A school doesn't have to be a monument. It does not have to look grand, imposing, that gives the student the feeling that that place should be feared for its size.

School should be a welcoming place. The lower the age of the students, the smaller the size of the school should be. An elementary school with 2,000 students is a nonsense.

As for its physical aspects, the building should take into account issues related to the level of external noise, climate, insolation, ventilation, lighting and the size of the terrain, adapting to the topography and integrating with the local landscape. The following are some recommendations from the International Union of Architects for the design and construction of schools:

- The construction should be carried out considering the scale of the student (child, adolescent).
- The arrangement of the locations must be flexible and differentiated.
- Systematically uniform rooms, arranged in rigid alignment, should be avoided.
- The influence of space is as reprehensible as excess.
- Lighting should be homogeneous
- Ventilation should be constant, avoiding confinement and drafts.
- Lighting and ventilation should be multilateral, preferably on opposite sides.
- The action of the sun must be controlled (BRASIL, 2009, p. 53).

From this booklet, there seems to be a public interest that school spaces are able to bring an environment conducive to learning, and also in the case of a good environment, keep it that way, and of course, if possible, always improve it. Also, because pedagogy is not static, I have constantly evolved, and the school space should follow this evolution.

There is a Bill that proposes amendment of the LDB (BRASIL, 1996) in force under the following terms:

It amends Law No. 9,394 of December 20, 1996 – LDB – to provide for minimum building standards in basic education establishments and prohibits the construction of schools considered degrading.

[...]

"Art.9º.....

IV-B – Establish, in collaboration with the States, the Federal District and the Municipalities, minimum building standards for basic education establishments, based on technical, pedagogical and safety criteria;

Art.25.

Single paragraph. It is up to the respective education system, in view of the available conditions and regional and local characteristics, to establish a parameter for meeting the provisions of this article, in compliance with the minimum standards of buildings for the basic education establishments of article IV-B of art. 9 of this Law". (NR)

Art. 3. The definition of minimum building standards for basic education establishments will have the participation of organs and entities of the Public Power and civil society responsible for the elaboration and supervision of technical standards and quality and safety standards in buildings.

Sole paragraph: Basic educational establishments built or maintained that do not meet the minimum quality and safety standards established by Art.9, item IV-B, of Law No. 9,394 of December 20, 1996, are considered degrading.

Art. 4. This Law enters into force on the date of its publication (BRASIL, 2019, p. 1-2).

In the justification for this new proposal as law, aspects related to deficiencies of important infrastructures to ensure the quality of education are detailed:

The absence of libraries, laboratories, recreation sites, playgrounds and cafeterias in most Brazilian schools is a widely known phenomenon. But our schools suffer from even more fundamental infrastructure problems: according to the latest School Census, many of them do not have water, electricity or sewage.

In addition to this unacceptable situation, which demands the immediate attention of the Public Power, complaints of basic education establishments that operate in buildings without any conditions of dignity, safety and well-being for students and teachers have been increased. The so-called "tin schools", with improvised classrooms, for example, are present in various places in the country. There are reports of such facilities being adopted in several states.

There are also numerous cases of school buildings in precarious and even dangerous situation, with improvised electrical installations and bumpy roofs, no toilets, no doors, no windows, in short, without the minimum of conditions for teachers to teach and students can learn in a dignified, safe and effective way (BRASIL, 2019, p. 2-3).

These placements, undoubtedly, not yet overcome, would justify some form of proposal with the aim of bringing together the financial efforts aimed at education with the quality of it, specifically in this aspect of school constructions. And it also complements:

It is past time to implement minimum quality standards for school buildings, which take into account technical aspects of engineering and architecture, as

well as pedagogical aspects and, mainly, safety for the school community. That's the point of this bill.

The guarantee of quality standards in education is one of the principles enshrined in Art. 206 of the Federal Constitution and in the Law of Guidelines and Bases of National Education (Law No. 9,394, of December 20, 1996). Although there may be controversies about the elements that effectively compose this standard, there is no doubt about the need to define and ensure minimum parameters for school buildings, which meet technical, pedagogical and safety criteria related to functionality, materials used, thermal comfort, electrical installations, as well as other essential aspects that should be observed in school buildings (BRAZIL, 2019, p. 3).

This is not new, because already in the national education plan 2014-2024, as detailed in this proposal, it was already proposed to create the minimum parameters of quality of basic education services.

Moving forward in this definition is urgent and necessary. In fact, the National Education Plan 2014-2024, approved with great enthusiasm by the National Congress, through Law No. 13,005 of June 25, 2014, already pointed in this direction. Its 7.21 strategy thus provides:

[...] the Union, in collaboration with subnational federated entities, will establish, within two (2) years of the publication of this Law, minimum quality parameters of basic education services, to be used as a reference for school infrastructure, pedagogical resources, among other relevant inputs, as well as an instrument for adopting measures to improve the quality of education.

After four and a half years of the PNE sanction, we can no longer postpone the implementation of this strategy that needs to be put into practice as soon as possible (BRASIL, 2019, p. 4).

In the bill presented (BRASIL, 2019), we already see a greater concern about the lack of condition of most public schools in the country. There is no standard, and most of them work with as little structure as possible, and giving little or no support to the teacher. With this possible minimum structure, teachers may gain more motivation for the struggle of literacy in Brazil, and for one day to have a quality public education available to all citizens, which apparently all legislation brings as the duty of the State.

Focusing this section on the near context, and just as an example of what exists, we find the Code of Works of Campo Grande (CAMPO GRANDE, 1979), even very old, is still in force and should be referred to all school buildings, starting with chapter VII – Generic Standards of Buildings, as to circulation and safety:

Art. 79 – Buildings must present the requirements and have the necessary equipment to ensure the minimum conditions of movement and safety in their use.

Art. 80 – For the calculation of the capacity of buildings, in order to provide adequate exit or disposal, the gross walking area per person will be taken, as indicated as indicated as indicated:

[...]

6-schools - 15.00m²/person

[...]

2° - When one of the above-mentioned destinations occurs, the capacity resulting from the calculation provided for in this article shall be increased by the capacity corresponding to the specific use, according to the following ratio of gross area of the compartment per person:

1 - schools of Chapter XXXIII:

a – oral exhibition classrooms..... 1.50m²;

(b) laboratories or the like..... 4.00m²;

c - first degree pre-rooms..... 3.00m²;

2 – places of sports, social, recreational, cultural and religious meetings of which chapter XXXII is treated:

a - with fixed seat..... 1.50m²;

b - no fixed seat..... 0.80m²;

c - standing 0.30m²;

[...]" (CAMPO GRANDE, 1979, p. 16-17).

This legislation brought here is much more important than it seems because explicitly it refers to the need to connect school buildings and construction quality in terms of habitable spaces by students and teachers to feel comfortable in maximum capacity.

We emphasize one of the conditions of these buildings with regard to classes, is that they should have 1.5 square meters for each student which would imply that a room for thirty students should have at least 45 square meters, which undoubtedly results in educational quality considering that there will be more space to move, put furniture, lower density and less feeling of stocking, less noise, etc.

In Section D, Article 97 of the Code of Works presents some limitations of area per floor that

The floors above that limit and are still situated at height (H), calculated in accordance with Article 139, more than 10.00 m² (10 m²), of buildings intended for: [...] 6 – schools, shall be divided so that no compartment exceeds the area of 800.00 m² (800 m²) of buildings which are located above this limit (8) are situated at the height (H), calculated in accordance with Article 139, greater than 10,00 m (ten meters), of buildings intended for: [...] 6 – schools; 1° - The division will be made with walls of fire-resistant material for at least 2 hours; the communication or access doors must be fire resistant for at least 1 hour" (CAMPO GRANDE, 1979, p. 23).

Chapter XXXIII of the same Law deals specifically with schools as follows:

Art. 294 – Establishments for primary, secondary or equivalent courses must meet the following requirements:

1 – school buildings intended for primary, secondary or equivalent courses shall have direct and mandatory communication between the background area

and public street, for a passage of minimum width of 3.50m (three meters and fifty centimeters);

2 – buildings for primary schools, secondary or equivalents may not occupy an area of more than 1/3 (one third) of the lot area, excluding sheds for covered playgrounds;

3 – it will be mandatory to build recreational areas, covered, in primary or secondary schools with an area corresponding to at least 1/3 (one third) of the sum of the areas of the classrooms, and at most 1/3 (one third) of the area not occupied by the building (CAMPO GRANDE, 1979, p. 68).

This legislation also collects technical standards with regard to access aspects with a specific look at people with motor disabilities and/or mobility problems:

Art. 294 – 4 – the stairs and internal ramps must have in their entirety corresponding width, at least 0.01m (one centimeter) per student provided for in the stocking of the upper floor, plus 0.05m (half an inch) per student of another floor that depends on them;

5 – the stairs must have a minimum width of 1.50 (one meter and fifty centimeters) and may not have fan sections. The ramps may not be less than 1.50 m (one meter and fifty centimeters) or have a slope of more than 10% (ten percent);

6 – The runners must have a width corresponding to at least 0.01 (one centimeter) per student who depends on them, respecting a minimum of 1.80 m (one meter and eighty centimeters);

7 – in case the location of lockers or changing rooms is provided along the corridors will be required the increase of 0.50m (fifty centimeters), per side used;

8 – the doors of the classrooms will have a minimum width of 0.90m (ninety centimeters) and a minimum height of 2.00m (two meters) (CAMPO GRANDE, 1979, p. 68).

In this same chapter XXXIII of the aforementioned Law, aspects relating to hygiene standards for proper use by its users and a quality assurance are detailed.

Art. 294 – 9 – the classrooms, when rectangular in shape, shall be of length equal to, at most, one and a half times the width;

10 – specialized classrooms are exempted from the requirements of this article, and must, however, present conditions appropriate to the purposes of specialization;

11 – the area of the classrooms will correspond to at least 1.00m² (one square meter) per student in a double wallet and 1.35m² (one meter and thirty-five square meters), when in individual portfolio;

12 – the auditoriums or large capacity rooms of the schools are subject especially to the following:

a – the useful area will not be less than 80,00m² (eighty square meters);

b – perfect visibility will be proven for any spectator of the speaker's table surface, as well as the frames or projection screen, by means of supporting graphs;

(c) ventilation shall be ensured by means of devices that allow the opening of at least one surface equivalent to 1 /10 (one tenth) of the room area, without

prejudice to the mechanical renewal of 20.00m³ (twenty cubic meters) of air per person within one (1) hour;

13 – the middle right foot of the classroom shall not be less than 3.20 m (three meters and twenty centimeters), with a minimum, at any point, of 2.50m (two meters and fifty centimeters);

14 – lighting of the types will not be allowed in the classrooms: unilateral direct or bilateral adjacent, and the openings of illumination must be arranged on the larger side. The illuminated surface must not be less than 1/5 (one fifth) of the floor; the area of the ventilation spans shall be at least half of the area of the illuminating surface;

15 – the walls of the classrooms and corridors must be from floor to ceiling, coated with material, smooth, waterproof and resistant to frequent washes, and the painting will be light in color;

16 – the floors of the classrooms will be mandatorily covered with materials that provide adequate thermal insulation, such as wood, linoleum, rubber or ceramic;

17 – Schools must have properly separated sanitary compartments for the use of one and another sex, these compartments, on each floor, must be equipped with latrines and washbasins in number corresponding to at least one set for each group of 25 (twenty-five) pupils, a latrine, a urinal and a washbasin for each group of 40 (forty) students, provided for in the capacity of the building, the doors of the cells in which the latrines are situated shall be placed in such a way as to leave a free span of 0.15m (fifteen meters) high at the bottom and 0.30m (thirty centimeters), at least at the top, above the minimum height of 2.00 m (two meters);

18 – in schools, kitchens and pantry, when any, must meet the minimum requirements established for such compartments in hotels.

19 – in boarding schools will be observed the provisions relating to items 17 and 18, in addition to the provisions relating to places or compartments for special purposes, as applicable to them;

20 – schools must be equipped with water tanks with a capacity corresponding to 40 (forty) liters at least, per student provided for in the capacity of the building;

21 – near the classrooms, work rooms, recreation and other purposes, there should still be drinking fountains provided with filters in number equal to that required in item 17 (CAMPO GRANDE, 1979, p. 68-69).

Highlighting the importance of maintaining the quality of the education space, it appears explicitly that the objectives of the Secretariat of Basic Education of the Ministry of Education, with regard to the school space is also to ensure its maintenance:

[...] to emphasize to the employee its fundamental role in the maintenance and conservation of the school space, through its intervention aiming to make the school a space of coexistence, such as, for example, in coping with depredation, in the maintenance of chalkboards and in the handling of fire extinguishers; provide basic information on the role of the employee regarding the accessibility of people with special needs (BRASIL, 2009, p. 6).

Final considerations

It is worth mentioning that although the legislation charges the unrestricted and full access of people with special needs, in practice the existing structures currently exist, the vast majority is inaccessible (MOURA, 2019). The inclusion that the school needs to promote, goes directly through the accessibility of physical spaces without leaving aside the use of technologies and techniques that truly bring unrestricted access to all students. According to Manzini (2005), the accessible place is not only one that does not have architectural barriers, it is necessary that this space promotes social inclusion.

In general, the legislation governing education in Brazil does not bring much concern with the teaching space. But specifically, as we saw in the example of Campo Grande, only the Code of Works reproduces some minimal characteristics for schools, but I believe that the built space is much more than just a construction that meets some rules, the sensations that the environment reflects for users is of paramount importance, especially when we talk about children who are in the process of training knowledge and the "being" who lives in community.

The ideal school project should bring clear and airy learning environments and elaborated together with architects and teaching experts providing the best possible use of space. It is also important to include good experiences as an example for new schools as Frearson (2013) points out.

An environment that provides safety, comfort and stimuli to knowledge can favor learning by students and teachers. These stimuli can come in various forms, such as colors, light environments, ventilated environments, furniture and rooms suitable for each age group. The school space is a whole and cannot be divided, and all of it as a whole when properly ordered, and there is a legal basis for this to happen, with the proper maintenance and investments, focuses on learning directly and, consequently, on the quality of education.

REFERENCES

21ST C. S. F. **Research on the Impact of School Facilities on Students and Teachers.** Washington, 2010. Available: <http://www.21csf.org/csf-home/Documents/ResearchImpactSchoolFacilitiesFeb2010.pdf>. Access: 10 Sept. 2021.

ALMEIDA, D. Manutenção do patrimônio escolar. **Nova Escola: gestão**, 2007. Available: <https://gestaoescolar.org.br/conteudo/771/manutencao-do-patrimonio-escolar>. Access: 10 Sept. 2021.

BALARDIM, G. Arquitetura escolar: estruturas que ensinam, motivam e inspiram. **Clip Escola**, 2019. Available: <https://www.clipescola.com/arquitetura-escolar/>. Access: 10 Sept. 2021.

BARRETT, P. *et al.* **Clever classrooms**: Summary report of the HEAD project. University of Salford, 2015. Available: <https://core.ac.uk/download/pdf/42587797.pdf>. Access: 10 Sept. 2021.

BRASIL. **Constituição da República Federativa do Brasil**: texto constitucional promulgado em 5 de outubro de 1988, com as alterações determinadas pelas Emendas Constitucionais de Revisão nos 1 a 6/94, pelas Emendas Constitucionais nos 1/92 a 91/2016 e pelo Decreto Legislativo no 186/2008. Brasília, DF: Senado Federal, Coordenação de Edições Técnicas, 2016. 496 p.

BRASIL. **Lei n. 8.069, de 13 de julho de 1990**. Estatuto da criança e do adolescente. Brasília, DF, 1990. Available: http://www.planalto.gov.br/ccivil_03/leis/l8069.htm. Access: 10 Sept. 2021.

BRASIL. **Lei n. 9.394, de 20 de dezembro de 1996**. Lei de diretrizes e bases da educação nacional. Brasília, DF, 1996. Available: http://www.planalto.gov.br/ccivil_03/leis/l9394.htm. Access: 10 Sept. 2021.

BRASIL. **Lei n. 10.048, de 8 de novembro de 2000**. Prioridade de atendimento às pessoas que especifica. Brasília, DF, 2000a. Available: http://www.planalto.gov.br/ccivil_03/leis/l10048.htm. Access: 10 Sept. 2021

BRASIL. **Lei n. 10.098, de 19 de dezembro de 2000**. Normas gerais e critérios básicos para a promoção da acessibilidade das pessoas portadoras de deficiência ou com mobilidade reduzida. Brasília, DF, 2000b. Available: http://www.planalto.gov.br/ccivil_03/leis/l10098.htm. Access: 10 Sept. 2021.

BRASIL. **Lei n. 10.172, de 9 de janeiro de 2001**. Plano Nacional de Educação. Brasília, DF, 2001. Available: http://www.planalto.gov.br/ccivil_03/leis/leis_2001/l10172.htm. Access: 10 Sept. 2021.

BRASIL. **Decreto n. 5.296 de 2 de dezembro de 2004**. Regulamenta as Leis nº 10.048, de 8 de novembro de 2000, e Lei 10.098, de 19 de dezembro de 2000. Brasília, DF, 2004. Available: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2004/decreto/d5296.htm. Access: 10 Sept. 2021.

BRASIL. Portaria Normativa n. 25, de 31 de maio de 2007. Ministério da Educação. Programa de Formação Inicial em Serviço dos Profissionais da Educação Básica dos Sistemas de Ensino Público – PROFUNCIÓNÁRIO. **Diário oficial da União**: Seção 1, Brasília, DF, n. 105, 1 jun. 2007.

BRASIL. **Módulo 16**: Técnicas de construção. Alessandro Guimarães Pereira. Brasília, DF: MEC/SEB/Universidade de Brasília, 2009. 124 p.

BRASIL. **Projeto de Lei n. 2489, de 24 de abril de 2019**. Propõe alteração da Lei de diretrizes e bases da educação nacional. Brasília, DF, 2019. Available:

https://www.camara.leg.br/proposicoesWeb/prop_mostrarintegra;jsessionid=node05xajomnuq2tkm38kzbu0qryf6771864.node0?codteor=1736638&filename=PL+2489/2019. Access: 10 Sept. 2021.

CAMPO GRANDE. **Lei n. 1866, de 26 de dezembro de 1979**. Código de Obras de Campo Grande/MS. 1979.

CAT. Secretaria Especial dos Direitos Humanos da Presidência da República (CORDE/SEDH/PR). **Ata VII – Comitê de Ajudas Técnicas – CAT**. 2007.

FREARSON, A. Well-designed schools improve learning by 25 percent says new study. **Dezeen**, 2013. Available: <https://www.dezeen.com/2013/01/02/poor-school-design-can-affect-learning-says-new-study/>. Access: 10 Sept. 2021.

MANZINI, E. J. Tecnologia assistiva para educação: recursos pedagógicos adaptados. *In: Ensaios pedagógicos: construindo escolas inclusivas*. Brasília: SEESP/MEC, 2005. p. 82-86.

MOURA, L. M. S. Acessibilidade espacial e tecnologias assistivas: possibilidades e desafios na inclusão escolar. **Brasil Escola**, 10 nov. 2019. Available: <https://monografias.brasilecola.uol.com.br/pedagogia/acessibilidade-espacial-e-tecnologias-assistivaspossibilidades-e-desafios-na-inclusao-escolar.htm>. Access: 10 Sept. 2021.

PARANÁ. **A Qualidade da Educação: conceitos e definições**. Anexo 1. Secretaria de Educação do Estado do Paraná, 2016. Available: http://www.gestaoescolar.diaadia.pr.gov.br/arquivos/File/sem_pedagogica/fev_2016/anexo1_2dia_sp2016.pdf. Access: 14 Oct. 2021.

SEBASTIÁN-HEREDERO, E. **A la calidad de la educación desde los espacios escolares: vision del profesorado y perspectivas en la educación castellano-manchega**. 1. ed. Universidade de Alcalá, 2008.

VIÑAO FRAGO, A.; ESCOLANO, A. **Currículo, espaço e subjetividade: a arquitetura como programa**. Rio de Janeiro: DP&A, 2001.

How to refer to this article

ZILIANI, V. C.; SEBASTIÁN-HEREDERO, E. The school space and the quality of education: A review by Brazilian legislation. **Revista on line de Política e Gestão Educacional**, Araraquara, v. 26, n. 00, e022022, Jan./Dec. 2022. e-ISSN:1519-9029. DOI: <https://doi.org/10.22633/rpge.v26i00.16752>

Submitted: 04/11/2021

Revisions required: 20/12/2021

Approved: 21/02/2022

Published: 31/03/2022

Management of translations and versions: Editora Ibero-Americana de Educação